In the Specification

Please amend the Specification as follows:

Please amend the Paragraph beginning at page 5, line 11 as follows:

Figure 3 is a cross sectional elevation view of the wheel assembly of Figure 2 carrying a ~~tyre~~ tire;

Please amend the Paragraph beginning at page 5, line 20 as follows:

Figure 1 shows a prior art agricultural tractor, which is particularly suitable for operation in a mine field because the chassis and driver's cab are narrow and well separated from the wheels, which are set far out from the ~~centre~~ center of the vehicle on strong axles that offer little resistance to blasts. The tractor has front and rear wheels, each rear wheel having a ~~tyre~~ tire (1) of rolling radius r, mounted on a rim (2) which is connected to an axle flange (3), by means of a nave plate (4), through a number of bolts (5) which are arranged in a circle of radius x. The front axle of the tractor can pivot about a horizontal axis (6), each front wheel being steerable through a mechanism (7) and having a gearbox (8) protruding out beyond the corresponding nave plate.

Please amend the Paragraph beginning at page 6, line 12 as follows:

The ~~tyre~~ tire (1) is designed to achieve a very good grip on the ground, and the coefficient of friction is therefore high, and may be as high as 1. For the purposes of design, the forces H and S may therefore be taken as equal to V. With a heavy implement mounted behind the tractor, the whole weight W of the tractor and implement may effectively be carried on the rear ~~tyres~~ tires (1).

Please amend the Paragraph beginning at page 6, line 19 as follows:

If the direction of V is considered as radial, that of S as axial, and that of H as longitudinal, the force H is communicated to the wheel by a torque at the axle having a magnitude H x r, where r is the rolling radius of the ~~tyre~~ tire (1). The number n and diameter d of the bolts holding the wheel to the axle flange (3) at a pitch circle of radius x have to be sufficient to carry the torque H x r. It will therefore be appreciated that the shear strength Q of each bolt will need to be greater than $nQ = \frac{r}{x}H$.

Please amend the paragraph beginning on Page 6, line 27 as follows:

A typical large tractor ~~tyre~~ tire has r = 860 mm and x = 138 mm, from which it can be seen that nQ = approximately 6.2 V, because H is approximately equal to V. It can therefore be concluded that conventional wheels are fixed to the axles by an arrangement of bolts which, if they are strong enough to carry the torque, are several times stronger than is required to carry the vertical loads. This applies to a wide range of wheels used on most vehicles, including passenger cars.

Please amend the paragraph beginning on Page 7, line 10 as follows:

Referring now to Figure 2, a wheel assembly of a first embodiment of the present invention has a wheel rim (10) welded to a first support plate in the form of nave plate (11) which has a generally circular hole (12) in its ~~centre~~ center, which is a close fit on a second coupling device in the form of a shear bolt (13). ~~Two~~ A second engaging device in the form of two keys (14, 15) are provided at diametrically opposite locations across the nave plate (11), the two keys (14, 15) being a sliding fit within corresponding key ways (16, 17) cut in the face of torque transfer device provided as a body member in the form of a torque ring (18). ~~Two~~ A first coupling or engaging device in the form of two further key ways (19, 20) are cut on the opposite face of the torque ring (18), the key ways (19, 20) being located on a diameter generally at right angles to the diameter through key ways (16, 17).

Please amend the paragraph beginning on Page 7, line 21 as follows:

A second support plate or drive plate (21) carries keys (22, 23) for slidably engaging key ways (19, 20) on torque ring (18). The drive plate (21) also has a central boss (24) which protrudes towards nave plate (11), a distance slightly less than the thickness of torque ring (18). A threaded hole (25) in the boss (24) receives the thread of shear bolt (13) so that the shear bolt (13) can be tightly screwed into hole (25) to hold the wheel assembly together to form a single wheel having a composite nave plate across the face of the rim (10). This assembly can then be bolted to a vehicle axle flange (26) by means of removable securing devices in the form of bolts passing through holes (27, 28) in the drive plate (21) and the axle flange (26) respectively. A set of larger holes (29) is also provided in nave plate (11) to allow a box type spanner (not shown) to be used to tighten the nuts or bolts used on the axle flange (26).

Please amend the paragraph beginning on Page 8, line 3 as follows:

As shown in Figure 3, which shows a side cross-sectional view through the wheel assembly of Figure 2 but having a ~~tyre~~ tire (30) mounted on the wheel rim (10), it can be seen that in the position shown with one of the pairs of keys (14, 15) or (22, 23) arranged vertically, only the shear bolt (13) prevents the torque ring (18) sliding upwards relative to the drive plate (21) or the nave plate (11) sliding upwards relative to the torque ring (18). When the corresponding key ways (16, 17) or (19, 20) are angled relative to the ground, there is some friction between the keys and the corresponding key ways, and it is found that when an explosion occurs, the friction is mainly due to the inertia of the torque ring (18), which should therefore be kept as light as possible.

Please amend the paragraph beginning on Page 8, line 16 as follows:

Figure 3 shows typical dimensions of a large tractor wheel and ~~tyre~~ tire (30), and provides a basis for demonstrating a way in which the single shear bolt (13) supports the vertical load V and also either an outward sideways load O or an inward sideways load I when the tractor is working normally and shears off at an appropriate load as a result of an explosion.

Please amend the paragraph beginning on Page 9, line 1 as follows:

For a wheel of the dimensions shown a 20 mm diameter Grade 8.8 bolt is appropriate. This bolt shears at about 11 ~~tonne~~ ton and fails in tension at about 20 ~~tonne~~ ton, so that the device can carry a vertical load of about 11 ~~tonne~~ ton, which corresponds to the maximum allowable weight of the whole tractor and implement which is carried equally on two wheels. The value of outward side force it can carry has been calculated as 3.15 x O = 20 ~~tonne~~ ton so that O=6.4 ~~tonne~~ ton, a very appropriate value.

Please amend the paragraph beginning on Page 9, line 9 as follows:

The single shear bolt can only supply the correct amount of shear for the vertical loads and enough tensile strength for the sideways loads for wheels in which the torque ring is large relative to the ~~tyre~~ tire diameter. When it is smaller, it is necessary to add small diameter bolts through the torque ring 18 and drive plate 21 and through holes with much greater clearance in the nave plate 11. These bolts can be arranged to fail one after the other after the main shear bolt has failed.

Please amend the paragraph beginning on Page 9, line 17 as follows:

When the shear bolt (13) fractures, the wheel leaves the tractor cleanly and it is only necessary to unscrew the broken piece of shear bolt (13) and collect the undamaged torque ring (18) and fit a new wheel and ~~tyre~~ tire (30).

Please amend the paragraph beginning on Page 9, line 21 as follows:

Referring now to Figure 4, in which parts common to the embodiment of Figures 2 and 3 are denoted by like reference numerals but increased by 100, a second embodiment of the invention, suitable for use with one of the front wheels of the tractor of Figure 1, is shown. It has been found that an explosion under a ~~tyre~~ tire has a considerable outward component as well as the main upward force, and the rim (110) of a typical tractor wheel is quite thin, as a result of which the explosion breaks the weld between the rim (110) and the nave plate (111) at the bottom and goes on to drive the bottom half of the rim (110) up into the top half, forming an inverted U which is projected outwards and upwards from the tractor.
In order to accommodate a gear box (131) via which the wheel of Figure 4 is mounted to an axle flange (126), the drive plate (121) is provided with a generally cylindrical extension (132).

Please amend the paragraph beginning on Page10, line 4 as follows:

The arrangement shown in Figure 4 has the disadvantage that the wheel is set outwards a considerable distance from gearbox (131), which may not be strong enough to withstand the bending this imposes. A third embodiment of the invention shown in Figure 5 can be used. In this arrangement the wheel is brought inwards so that its ~~centre~~ center is in line with the axle flange 226.

Please amend the paragraph beginning on Page10, line 10 as follows:

Referring now to Figure 5, in which parts common to the embodiment of Figures 2 and 3 are denoted by like reference numerals but increased by 200, a third embodiment of the invention is shown. This embodiment is intended to prevent the wheel rim (210) wrapping around the drive plate, which is now an assembly consisting of parts (~~211~~ 221), (233), (236) and (238) and holding the rim (210) to the axle flange (226), increasing the transfer of load to the tractor and making the fitting of a new wheel more difficult. The drive plate (~~211~~ 221) has a generally conical shape, having as steep an angle as possible. An additional plate (234) is provided towards the outside of the rim (210) and carries vertical and horizontal loads.

Please amend the paragraph beginning on Page10, line 22 as follows:

The torque into the wheel is applied through a separate flange (235), set as far into the wheel as possible, via torque ring (218) to a flange (236) fixed to the conical extension of drive plate extension (~~211~~ 221). When an explosion occurs under the ~~tyre~~ tire and shear bolt (213) fails, the rim (210) moves upwards closing gap (237) between the rim (210) and conical extension of drive plate (~~211~~ 221). The rim (210) then slides along the conical surface of drive plate (~~211~~ 221) under the combined effects of the conical shape and the outward component of the blast. A cylindrical extension (238) is provided to prevent the collapsing rim (210) from becoming trapped behind the flange (236).

Please amend the paragraph beginning on Page11, line 10 as follows:

Links (339, 341) of generally equal length L, are pivoted to the torque plate (340) by respective bolts through holes (342, 343). The ~~centres~~ centers of these bolts are placed generally equidistantly from shaft axis (344) on diameter line (345). The other ends (346, 347) of the links (339, 341) are pivoted to the drive plate (321) at pivot points (348, 349) respectively, which also lie on a diameter of the drive plate (321) and are generally equidistant from the shaft axis (344). As a result, links (339, 341) are generally parallel to each other and at right angles to diameter

line (345) when the ~~centre~~ center point X of diameter (345) coincides with the shaft axis (344). This arrangement allows the ~~centre~~ center X of torque plate (340) to move in a straight line over short distances along diameter (345) on either side of the shaft axis (344). The distance over which this movement approximates to a straight line depends upon the length L of the links (339, 341), and in practice, these links should be made as long as practicable.

Please amend the paragraph beginning on Page12, line 4 as follows:

~~Shear~~ First coupling member in the form of shear bolt (313) is a close fit in hardened bush (353), which is fixed to a hole (354) in the nave plate (311). As in the previous embodiments, torque from the axle flange (326) is transmitted to nave plate (311) without significantly restricting the radial movement of the nave plate (311). The flange, torque and nave plate assembly are held together by two pairs of second coupling members in the form of bolts (355), of which only one bolt is shown in Figure 6. These bolts (355) pass through enlarged holes (356) in the nave plate (311) and therefore do not restrict the radial movements of the nave plate (311). Typically, the shank of this bolt (355), in the region where it acts as the pivot (348, 349), has a diameter required to carry the heavy torque loads to the links (339, 341). The diameter of this bolt, in the region where it passes through the corresponding enlarged hole (356), is reduced so that is just sufficient to carry the small tensile load holding washer (357) against the face of nave plate (311) to clamp the plate assembly together.